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CW 35: Reflections Day 2

**Honors Geometry**

Reflect on yesterday . . . What must be true to justify that a reflection has occurred? What process would you use to prove that information?

Think about today . . . How might your process change if you were reflecting an object over a diagonal line in the coordinate plane?

Part 1.

1. What is the slope of the line in ? What is the y – intercept of the line ?
2. Graph the line in your notebook.
3. Predict what quadrant the image of each point would be in if the point were reflected over the line .
   1. Points
4. If a point is reflected, do you think that the pre-image and image should lie on the same line? How could you prove that they are, in fact, on the same line?

Part 2. Graph of the image of the figure using the transformation given and label the coordinates.

1. Reflection across
2. ); Reflection across
3. Prove that each reflected image you graphed above is equidistant from the line of reflection.

Perform the transformation given, then prove that the pre-image and image are equidistance from the line of reflection.

1. Reflection across
2. Reflection across
3. Reflection across
4. );Reflection across
5. Suppose you want to perform a Reflection of the point K(0,4) over the line y= 2x + 1.
   1. What is the difference between this problem and the one you solved above?
   2. How will this difference change your process?
   3. Try to perform this transformation!
6. Prove that the image reflected over the is   
   You must prove the following:

- A and A’ lie on the line that is perpendicular to the line of reflection  
- A and A’ are equidistance from the line of reflection.